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| EXAMINER | |
|---|---|
| PHAM, THIERRY L | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2624 | |

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/706,430 | RAI ET AL. | |
| | Examiner | Art Unit | |
| | Thierry L Pham | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

- This action is responsive to the following communication: an Amendment filed on 11/10/04.
- Claims 1-22 are pending in applications.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-9, 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Owa et al (US 6348971).

Regarding claim 1, Owa discloses in a printshop (printshop with plurality of printers, fig. 1) having resources (plurality of printers, fig. 1) for performing various tasks to process print jobs, a method for optimizing the performance of the printshop, the method comprising the steps of:

- partitioning the printshop into automomous cells (a printshop as shown in fig. 1 including plurality of printers and each printer accommodate in its own location/cell) capable of receiving and processing print jobs;
- dividing the resources of the printshop between the automonous cells (each printer of fig. 1 accommodating its own cell), wherein each cell contains sufficient resources (a printer in each cell/location has the capacities to complete the print job alone, fig. 1, col: 3, lines 15-067) to complete at least one class of print job; and
- assigning (the host computer assigning the print job with printing attributes to an appropriate printer for completing the print job, figs. 1-2, col. 3-4) each print job to selected one of the automonous cells wherein the automonous cell contains resources capable of independently

completing the print job (each printer has its own capabilities (i.e. ink and paper) to complete the print job independently, fig. 9).
Please Note: It is impossible to partition a printshop into multiple cells via using a computer program and/or computer system, since the printshop is a physical work space comprising of plurality of hardware devices. "Virtual and/or Logical" cells can be partition via using a computer program and/or system.

Regarding claim 3, Owa further discloses the method of claim 1 wherein the step of assigning print jobs comprises, for each given print job, determining what tasks (fig. 6, cols. 4-6) need to be performed to complete the given print job and assigning (the host computer assigning the print job with printing attributes to an appropriate printer to complete the print job, fig. 1-2, col. 3-6) the given print job to one of the automomous cells that contains sufficient resources for performing the tasks that need to be completed to fully process the given print job.

Regarding claim 4, Owa further discloses the method of claim 3 wherein the step of assigning print jobs comprises, for each given print job, determining (determining which printers have the capacities/resources to complete the print job as requested by users with printing attributes, cols. 3-6) which of the autonomous cells has sufficient available capacity to completely process the given print job.

Regarding claim 6, Owa further discloses the method of claim 1 further comprising the steps of: (1) determining classes (i.e. priority, cols. 5-6) of print jobs; and (2) assigning each print job to one of the classes (assigning print job with priority, cols. 5-6).

Regarding claim 7, Owa further discloses the method of claim 6 wherein the determination of the class of print jobs is done based on collecting and analyzing the print job data (host computer having a detection and interpretation means for detecting and analyzing print job data and routing the print job data to an appropriate printer based upon analyzed print job data, fig. 2, cols. 5-6 and cols. 8-9) and on tasks required to process the print job.

Regarding claim 8, Owa further discloses the method of claim 6 wherein the step of assigning each print job to a selected one of the cells for processing is based in part on the classes to which the print jobs are assigned (assigning print job with priority, cols. 5-6).

Regarding claim 9, Owa further discloses the method of claim 1 wherein a selected one of the cells is assigned multiple print jobs for concurrently processing the multiple print jobs (cols. 3-6).

Regarding claim 16, Owa discloses a method of portioning a printshop into autonomous cells, comprising the step of:

- identifying (host computers, fig. 1, cols. 3-4) products produce by the printshop;
- identifying (host computers, fig. 1, cols. 3-4) operation required for producing each of the identified products;
- determining (determines which printer is to complete the print job, fig. 1, cols. 3-6) printshop resources that are required for printing the identified operations;
- partitioning printshop resources into autonomous cell based on the determined number of printshop resources required for operations to produce products based on customer demand for products, wherein each autonomous cell is independently capable of producing at least one of the identified products a printer in each location (cell) has the capacities to complete the print job alone, fig. 1, col. 3, lines 15-67).

Regarding claim 17, Owa further discloses the method of claim 16 wherein throughput of each autonomous cell is determined as a function of the printshop resources allocated to the autonomous cell, and wherein the printshop resources are allocated to each autonomous cell based on customer demand (fig. 1, col. 3, lines 15-67 and col. 8-9).

Regarding claim 18, Owa further discloses the method of claim 16 wherein the step of identifying products comprises identifying classes (fig. 12a) of print jobs produced by the printshop, wherein each class includes a sequence of operation (inherently, before perform

printing of print job, there are many task involve, for example, converting a print job into PCL and/or PDL language and CMYK color space) that is performed to process the print jobs of the class that differs from the sequence of operations performed to process each of the other classes.

Regarding claims 19-20, please see rejection rationale/basis as described in claims 6-7.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 5, 10-15, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owa as described in claim 1 above, and in view of Smirnov et al (U.S. 6546364).

Regarding claims 2 & 5, Owa does not explicitly disclose wherein at least one of the autonomous cells includes more than one machine for performing a same operation, and wherein the resources may include printers, copiers, rollers, shrink wrappers, cutters, sealers and manual resources among others.

Smirnov, in the same field of endeavor for printshop (abstract), teaches the autonomous cells includes more than one machine for performing a same operation (fig. 2, col. 4, lines 1-36 and cols. 7-8) wherein the resources may include printers, copiers, rollers, shrink wrappers, cutters, sealers and manual resources among others.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Owa as per teachings of Smirnov because of a following reason: (•) more than one machine performing a print job, thereby, increasing productivity and optimizing production costs/times (Smirnov, col. 4, lines 18-36).

Therefore, it would have been obvious to combine Owa with Smirnov to obtain the invention as specified in claims 2 & 5.

Regarding claim 10, Owa discloses a method for optimizing the performance of a printshop, the method comprising the steps of:

- providing a printshop that is partitioned into automomous cells (a printshop as shown in fig. 1 including plurality of printers and each printer accommodate in its own location/cell), each cell containing sufficient resources to complete a print job;
- receiving a print job (fig. 1) for processing at the printshop;
- sending (network, fig. 1) the print job to a selected one of the automomous cells having resources capable of completing the print job.

However, Owa fails to explicitly disclose wherein at the selected autonomous cell, dividing the print job into lots and concurrently processing the lots using the resources (a print job is peformed by using plurality of resources, fig. 2, col. 4, lines 1-36 and cols. 7-8) of the selected automomous cell.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Owa as per teachings of Smirnov because of a following reason: (•) more than one machine performing a print job, thereby, increasing productivity and optimizing production costs/times (Smirnov, col. 4, lines 18-36).

Therefore, it would have been obvious to combine Owa with Smirnov to obtain the invention as specified in claim 10.

Regarding claim 11, Smirnov further teaches wherein each cell contains multiple pieces of equipment for completing a print job (fig. 2, col. 4, lines 1-36 and cols. 7-8).

Regarding claims 12-13, Owa further discloses wherein the printshop has more than two autonomous cells and equal size (fig. 1).

Regarding claims 14-15 & 22, Owa further discloses wherein the dividing step is performed automatically by a machine, and a machine is a computer system (host computer, fig.

1, cols. 3-6). Please also see Smirnov (computer system model 10, figs. 1-2, col. 4, lines 1-36 and cols. 7-8)

Regarding claim 21, Smirnov further teaches the step of dividing a print job into smaller sized lots and concurrently processing the smaller sized lots in the selected autonomous cell (fig. 2, col. 4, lines 1-36 and cols. 7-8).

***Response to Arguments***

Applicant's arguments filed 11/10/04 have been fully considered but they are not persuasive.

• Regarding claim 1, the applicants argued the cited prior art of record (US 6348971 to Owa) fails to teach and/or suggest dividing the resources of the printshop into automonous cells.

In response, Owa explicitly teaches a method of dividing the resources of the printshop into automonous cells (a printshop as shown in fig. 1 including plurality of printers and each printer accommodate in its own location/cell and each printer can completes the print job by itself). Please Note: It is impossible to partition a printshop into multiple cells via using a computer program and/or computer system, since the printshop is a physical workspace comprising of plurality of hardware devices. "Virtual and/or Logical" cells can be partition via using a computer program and/or system. However, limitations in claim 1 fail to recite any indication of dividing printshop into "virtual and/or logical" cells using graphical user interface. The limitations do not exclude hardware devices can be manually partitioned (i.e. moving multiple printers and/or other resources including computer systems into one cell ***by the operators*** so it can produced the print job independently).

• Regarding claims 10 & 16, the applicants argued the combinations of prior arts of record (US 6348971 and US 6546364) fail to teach and/or suggest dividing the resources of the printshop into automomous cells capable of completing at least one class of print job.

In response, Owa explicitly teaches a method of dividing the resources of the printshop into automonous cells (a printshop as shown in fig. 1 including plurality of printers and each printer accommodate in its own location/cell). Please Note: It is impossible to partition a printshop into

multiple cells via using a computer program and/or computer system, since the printshop is a physical workspace comprising of plurality of hardware devices. "Virtual and/or Logical" cells can be partition via using a computer program and/or system. However, limitations in claims 10 & 16 fail to recite any indication of dividing printshop into "virtual and/or logical" cells using graphical user interface. The limitations do not exclude hardware devices can be manually partitioned (i.e. moving multiple printers and/or other resources including computer systems into one cell ***by the operators*** so it can produced the print job independently).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L Pham whose telephone number is (571) 2727439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry Pham

TP

Gabriel Garcia

GABRIEL GARCIA
PRIMARY EXAMINER